

REMARKS

Further and favorable reconsideration is respectfully requested in view of the foregoing amendments and following remarks.

Claims 10-21 were pending in this application when examined.

Claims 10, 11, 17 and 18 have been amended to recite that the needle crystal is “single crystalline”. Support for these amendments can be found on page 12, lines 8-12 of the specification (Example 4 and Fig. 14).

Claims 12, 14 and 16-21 have been amended to make minor editorial changes, which are self-explanatory.

Support for new claims 22-28 can be found on page 8, lines 1-8 and page 10, line 19 to page 20, line 2 of the specification (Example 3 and Figs. 9-10).

Claims 13 and 15 have been cancelled, without prejudice or disclaimer.

I. Objection to the Drawings

The Examiner objects to the drawings submitted September 22, 2006. During a telephonic interview with the Examiner on August 18, 2010, the Examiner asserted that clearer drawings should be submitted. Accordingly, Applicants submit herewith Replacement Sheets for Figs. 1-20.

II. Claim Rejection Under 35 U.S.C. § 103

The Examiner rejects claims 10-21 under 35 U.S.C. §103(a) as being unpatentable over Miyazawa et al. (US 2002/0192143) in view of Fagan et al. As applied to the amended claims, Applicants respectfully traverse the rejection.

The Miyazawa et al. reference teaches a needle crystal and a method for making the needle crystal via a liquid-liquid interface method. For example, the reference teaches preparing hollow needle-like fullerene crystals by the liquid-liquid deposition process using toluene and isopropyl alcohol (see Example 8 and Fig. 28).

However, the hollow needle-like fullerene crystals taught by the reference are polycrystalline, rather than “**single** crystalline”, as recited in claims 10, 11, 17 and 18.

Applicants enclose a non-patent document by Mr. Kun'ichi Miyazawa, the first named inventor of both the present application and the cited Miyazawa et al. reference: "Structure and properties of fullerene nanowhiskers prepared by the liquid-liquid interfacial precipitation method". Fig. 4 of the non-patent document corresponds to Fig. 28 of the Miyazawa et al. reference, and one can clearly see that the hollow needle-like fullerene crystals are polycrystalline. Accordingly, the Miyazawa et al. reference teaches "polycrystalline" hollow needle-like fullerene crystals, rather than "single crystalline", as recited in the presently claimed invention.

In addition, Applicants enclose a second non-patent document by Mr. Miyazawa: "Transmission electron microscopy investigation of tubular and capsular needlelike crystals of C₆₀ produced by the liquid-liquid interfacial precipitation method". The subject matter of the second non-patent document corresponds to Example 4 of the present application, and one can clearly see that the needle crystal is "single crystalline".

In addition, Applicants enclose a third non-patent document by Mr. Miyazawa: "Transmission electron microscopy investigation of fullerene nanowhiskers and needle-like precipitates formed by using C₆₀ and (η²-C₆₀)Pt(PPh₃)₂". The subject matter of the third non-patent document corresponds to Example 1 and Example 2 of the present application, and one can clearly see that the needle crystal is "single crystalline".

Accordingly, one of ordinary skill in the art would recognize that the Miyazawa et al. reference teaches "polycrystalline" hollow needle-like fullerene crystals, whereas the presently claimed invention is directed to a needle crystal that is "single crystalline". Thus, one of ordinary skill in the art would not have had any reasonable expectation of success of arriving at the claimed needle crystals and methods of preparation from the disclosure of the cited Miyazawa et al. reference.

The Fagan et al. reference also does not disclose or suggest the needle crystals and methods of claims 11, 12, 17 and 18.

Therefore, claims 10, 11, 17 and 18 would not have been obvious over the references.

Claims 12, 14, 16 and 19-21 depend directly or indirectly from claims 10, 11, 17 or 18, and thus also would not have been obvious over the references.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

III. New Claims

The Miyazawa et al. and Fagan et al. references do not disclose or suggest a C₆₀ fullerene needle comprising an amorphous structure, wherein nanometer-sized particles of platinum are dispersed thereon, as recited in claim 22, or a method for preparing a C₆₀ fullerene needle comprising an amorphous structure, as recited in claim 25.

Therefore, claims 22 and 25 are patentable over the references.

Claims 23, 24 and 26-28 depend from claims 22 or 25, and thus also are patentable over the references.

Accordingly, prompt examination and allowance of claims 22-28 are respectfully requested.

IV. Conclusion

For these reasons, Applicants take the position that the presently claimed invention is clearly patentable over the applied references.

Therefore, in view of the foregoing amendments and remarks, it is submitted that the application is in condition for allowance. Such allowance is solicited.

Respectfully submitted,

Kun'ichi MIYAZAWA et al.

/Andrew B.
By Freistein/

Digital signature of Andrew B. Freistein
DN: cn=Andrew B. Freistein, o=VLP,
ou=WLP, email=a.freistein@venderoth.
com, c=US
Date: 2010.08.23 12:13:12 -04'00'

Andrew B. Freistein
Registration No. 52,917
Attorney for Applicants

ABF/emj
Washington, D.C. 20005-1503
Telephone (202) 721-8200
Facsimile (202) 721-8250
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